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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,134	04/09/2004	Seok-Gyun Woo	52322/DBP/Y35	2475

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EXAMINER	
WON, BUMSUK	
ART UNIT	**PAPER NUMBER**
2879	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/822,134	WOO ET AL.
	Examiner	Art Unit
	Bumsuk Won	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,12-14,24 and 25* is/are rejected.

7)☐ Claim(s) *8-11 and 15-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1 Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2 The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Plasma display panel having reinforcing barrier ribs with curvature.

3 The disclosure is objected to because of the following informalities: The term "Ttransparent" on page 9, line 13 is misspelled. Appropriate correction is required.

Claim Objections

4 Claims 4-5 are objected to because of the following informalities:

Regarding claim 4, the term "thickness" is not descriptive. This term can mean any of the three dimensional length of the reinforcing barrier ribs. For examining purpose, the term "thickness" will be assumed to be the length of the reinforcing barrier rib in the direction perpendicular to the substrates. Appropriate correction is required.

Regarding claim 5, the term "width" is not descriptive. This term can mean any of the three dimensional length of the reinforcing barrier ribs. For examining purpose, the term "width" will be assumed to be the length of the reinforcing barrier rib in the direction from inside to outside of the display area. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 12-14, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betsui (US 6,242,859) in view of Zhang (US 6,867,546).

Regarding claim 1, Betsui discloses a plasma display panel (note figure 1) comprising:

a first substrate (note figure 1, item 20) and a second substrate (note figure 1, item 10) spaced apart from each other at a distance and proceeding substantially parallel to each other (note figure 1), the first substrate (note figure 1, 20) and the second substrate (note figure 1, item 10) having a display area (note figure 11, 23R) and a non display area (note figure 11, all the areas surrounding the display area (item 23R) on the substrate shown);

a plurality of address electrodes (note figure 1, items A1, A2, and A3) formed on the first substrate (note figure 1, item 20) and covered by a dielectric layer (note figure 1, item 22);

main barrier ribs (note figure 1, item 23) arranged between the substrate to form discharge cells (note figure 1, not referenced, between main barrier ribs (item23));

phosphor layer (note figure 1, items 24R, 24G, and 24B) formed within the discharge cells (note figure 1, not referenced, between main barrier ribs (item23));

a plurality of discharge sustain electrodes (note figure 1, item 12) formed on the surface of the second substrate (note figure 1, item10) facing the first substrate (note figure 1, item 20) and covered by a dielectric layer (figure 1, item 30);

and reinforcing barrier ribs (note figure 1, item 25) arranged at the non display area (note figure 11, all the areas surrounding the display area (item 23R) on the substrate shown) while surrounding the display area (note figures 10 and 11, reinforcing barrier ribs (item 25) is located outside of spacer (item 40) which is outside of display area (item 23R)), and with an outer structure curved toward the outside of the substrates (note figure 19, reinforcing barrier ribs (item 25) has outer structure curved toward the outside of the substrate).

Betsui does not disclose the reinforcing barrier rib connected to the main barrier ribs.

Zhang discloses the reinforcing barrier rib connected to the main barrier ribs (note figure 1, the reinforcing barrier ribs (not referenced, the outside ribs of the mesh structure) are connected to main barrier ribs (not referenced, the inside ribs)), for the

purpose of providing high rate of finished products and low manufacturing cost (note abstract lines 12-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reinforcing barrier rib connected to the main barrier rib disclosed by Zhang in the plasma display panel disclosed by Betsui, for the purpose of providing high rate of finished products and low manufacturing cost.

Regarding claim 2, Zhang discloses the reinforcing barrier ribs (note figure 1, not referenced, the outside ribs of the mesh structure) surround at least one edge of the display area (note figure 1, the display are has 4 edges, and the outside ribs of the mesh structure has 4 edges in parallel with the corresponding edges of the display area).

The reason for combining is the same as for claim 1 above.

Regarding claim 3, Zhang discloses the reinforcing barrier ribs (note figure 1, not referenced, the outside ribs of the mesh structure) surround all four edges of the display area (note figure 1, the display are has 4 edges, and the outside ribs of the mesh structure has 4 edges in parallel with the corresponding edges of the display area).

The reason for combining is the same as for claim 1 above.

Regarding claim 4, Zhang discloses the thickness of the reinforcing barrier ribs (note figure 1, not referenced, the outside ribs of the mesh structure) is substantially the

same as the thickness of the main barrier ribs (note figure 1, not referenced, the inside ribs of the mesh structure).

The reason for combining is the same as for claim 1 above.

Regarding claim 5, Betsui discloses the reinforcing barrier ribs (note figure 19, item 25) have a width gradually reduced from the center thereof to both end portions thereof (note figure 19, item 25, the width gradually reduces from the center to both ends (top and bottom, or ends where the reinforcing barrier ribs meet the dielectric layer (item 22) and protective layer (item 15)).

Regarding claim 6, Betsui discloses the reinforcing barrier ribs are outlined with an arc (note figure 19, item 25).

Regarding claim 7, Betsui discloses the reinforcing barrier ribs are outlined with a plurality of arcs (note figure 19, item 25, there are arcs on both sides of the reinforcing barrier ribs).

Regarding claim 12, Betsui discloses a plasma display panel (note figure 1) comprising:

a first substrate (note figure 1, item 20) and a second substrate (note figure 1, item 10) facing each other (note figure 1);

address electrodes (note figure 1, items A1, A2, and A3) formed on the first substrate (note figure 1, item 20);

main barrier ribs (note figure 1, item 23) arranged between the first substrate (note figure 1, item 20) and the second substrate (note figure 1, item 10) within a display area to form discharge cells (note figure 1, not referenced, between main barrier ribs (item23));

phosphor layer (note figure 1, items 24R, 24G, and 24B) formed at the respective discharge cells (note figure 1, not referenced, between main barrier ribs (item23));

a plurality of discharge sustain electrodes (note figure 1, item 12) formed on the second substrate (note figure 1, item 10);

and dummy barrier ribs (note figure 1, item 25) arranged at a non display region (note figure 11, all the areas surrounding the display area (item 23R) on the substrate shown) sided with at least one end portion of the display area (note figure 11, item 23R); wherein the dummy barrier ribs (note figure 1, item 25) has a curvature (note figure 19, dummy barrier ribs (item 25) has outer structure curved toward the outside of the substrate).

Betsui does not disclose the dummy barrier ribs (note figure 1, item 25) comprise main dummy barrier ribs spaced apart from the end portions of the main barrier ribs at a distance while proceeding in a direction of the display area, and interconnection dummy barrier ribs extended from the main dummy barrier ribs toward the main barrier ribs and connected to the main barrier ribs.

the dummy barrier ribs (note figure 1, not referenced, the four outside ribs that surrounds the display area) comprise main dummy barrier ribs (note figure 1, not referenced, the two outside ribs that are in parallel with grooves) spaced apart from the end portions of the main barrier ribs at a distance while proceeding in a direction of the display area (note figure 1), and interconnection dummy barrier ribs (note figure 1, not referenced, the two outside ribs that are in parallel with no grooves) extended from the main dummy barrier ribs toward the main barrier ribs and connected to the main barrier ribs (note figure 1).

The reason for combining is the same as for claim 1 above.

Regarding claim 13, Zhang discloses the dummy barrier ribs (note figure 1, not referenced, the four outside ribs that surrounds the display area) are arranged at non display regions (note figure 1, the dummy barrier ribs are outside the discharge cells) sided with two opposite end portions of the display area facing each other (note figure 1, two interconnection dummy barrier ribs that are in parallel to each other no grooves), and the main dummy barrier ribs proceed perpendicular to the address electrodes (note figure 1, the main dummy barrier ribs that are in parallel to each other with grooves are perpendicular to the address electrodes (item 5)).

The reason for combining is the same as for claim 1 above.

Regarding claim 14, Zhang discloses the dummy barrier ribs (note figure 1, not referenced, the four outside ribs that surrounds the display area) are arranged at non

display regions (note figure 1, the dummy barrier ribs are outside the discharge cells) sided with two other opposite end portions of the display area facing each other (note figure 1, two main dummy barrier ribs that are in parallel to each other with grooves and two interconnection dummy barrier ribs that are in parallel to each other no grooves), and the main dummy barrier ribs proceed perpendicular to the address electrodes (note figure 1, the main dummy barrier ribs that are in parallel to each other with grooves are perpendicular to the address electrodes (item 5)).

The reason for combining is the same as for claim 1 above.

Regarding claim 24, Zhang discloses the main barrier ribs are stripe patterned (note figure 1, not referenced, the two inside main barrier ribs in parallel to each other and both of them are parallel to the outside barrier ribs without groove that forms strip pattern) while proceeding parallel to the address electrodes (note figure 1, item 5).

Regarding claim 25, Zhang discloses the main barrier ribs are latticed patterned with first barrier rib portions proceeding parallel to the address electrodes (note figure 1, not referenced, the inside main barrier rib portion that are in parallel to the address electrodes (item 5) and the outside barrier ribs that has no grooves), and second barrier rib portions proceeding perpendicular to the address electrodes (note figure 1, not referenced, the inside main barrier rib portion that are perpendicular to the address electrode and in parallel with outside barrier ribs that has grooves).

Allowable Subject Matter

6 Claims 8-11 and 15-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to disclose a combination of all the claimed features as presented in claim 8: a plasma display panel, wherein the arc portions of the reinforcing barrier ribs are differentiated in the thickness thereof, along with the rest of the limitations of the claim.

Due to their dependency, claim 9 is necessarily allowable.

The prior art fails to disclose a combination of all the claimed features as presented in claim 10: a plasma display panel, wherein the respective arc portions of the reinforcing barrier ribs correspond to a discharge cell formed by the main barrier ribs, along with the rest of the limitations of the claim.

The prior art fails to disclose a combination of all the claimed features as presented in claim 11: a plasma display panel, wherein the respective arc portions of the reinforcing barrier ribs correspond to two or more discharge cells formed by the main barrier ribs, along with the rest of the limitations of the claim.

The prior art fails to disclose a combination of all the claimed features as presented in claim 15: a plasma display panel, wherein the main dummy barrier ribs have a plurality of arc portions serially connected to each other, along with the rest of the limitations of the claim.

Due to their dependency, claims 16-17 are necessarily allowable.

The prior art fails to disclose a combination of all the claimed features as presented in claim 18: a plasma display panel, wherein the main dummy barrier ribs and the interconnection dummy barrier rib are connected to each other to form an arc portion, along with the rest of the limitations of the claim.

The prior art fails to disclose a combination of all the claimed features as presented in claim 19: a plasma display panel, wherein the main dummy barrier ribs further comprise subsidiary dummy barrier ribs placed at the one sided region of the main dummy barrier ribs facing the main barrier ribs, along with the rest of the limitations of the claim.

Due to their dependency, claims 20-21 are necessarily allowable.

The prior art fails to disclose a combination of all the claimed features as presented in claim 22: a plasma display panel, wherein separation barrier ribs are

The prior art fails to disclose a combination of all the claimed features as presented in claim 15: a plasma display panel, wherein the main dummy barrier ribs have a plurality of arc portions serially connected to each other, along with the rest of the limitations of the claim.

Due to their dependency, claims 16-17 are necessarily allowable.

The prior art fails to disclose a combination of all the claimed features as presented in claim 18: a plasma display panel, wherein the main dummy barrier ribs and the interconnection dummy barrier rib are connected to each other to form an arc portion, along with the rest of the limitations of the claim.

The prior art fails to disclose a combination of all the claimed features as presented in claim 19: a plasma display panel, wherein the main dummy barrier ribs further comprise subsidiary dummy barrier ribs placed at the one sided region of the main dummy barrier ribs facing the main barrier ribs, along with the rest of the limitations of the claim.

Due to their dependency, claims 20-21 are necessarily allowable.

The prior art fails to disclose a combination of all the claimed features as presented in claim 22: a plasma display panel, wherein separation barrier ribs are provided between the main barrier ribs and the dummy barrier ribs, along with the rest of the limitations of the claim.

Due to their dependency, claim 23 is necessarily allowable.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bumsuk Won
Patent Examiner

JOSEPH WILLIAMS
PRIMARY EXAMINER